

EARTHQUAKE DESIGN CRITERIA

- A. LOCATION OF SITE
- B. SOIL TYPES
- C. IMPORTANCE FACTOR



LOCATION OF SITE

- USGS ZONING BY ZIP CODE
- IBC CODES UTILIZE THIS METHOD FOR MAPPING

TWO FACTORS / ACCELERATION

- SHORT PERIOD RESPONSE
- LONG PERIOD RESPONSE

SOILS TYPES

IBC CODE CLASSIFICATIONS

A= HARD ROCK

B= ROCK

C= DENSE SOIL/SOFT ROCK

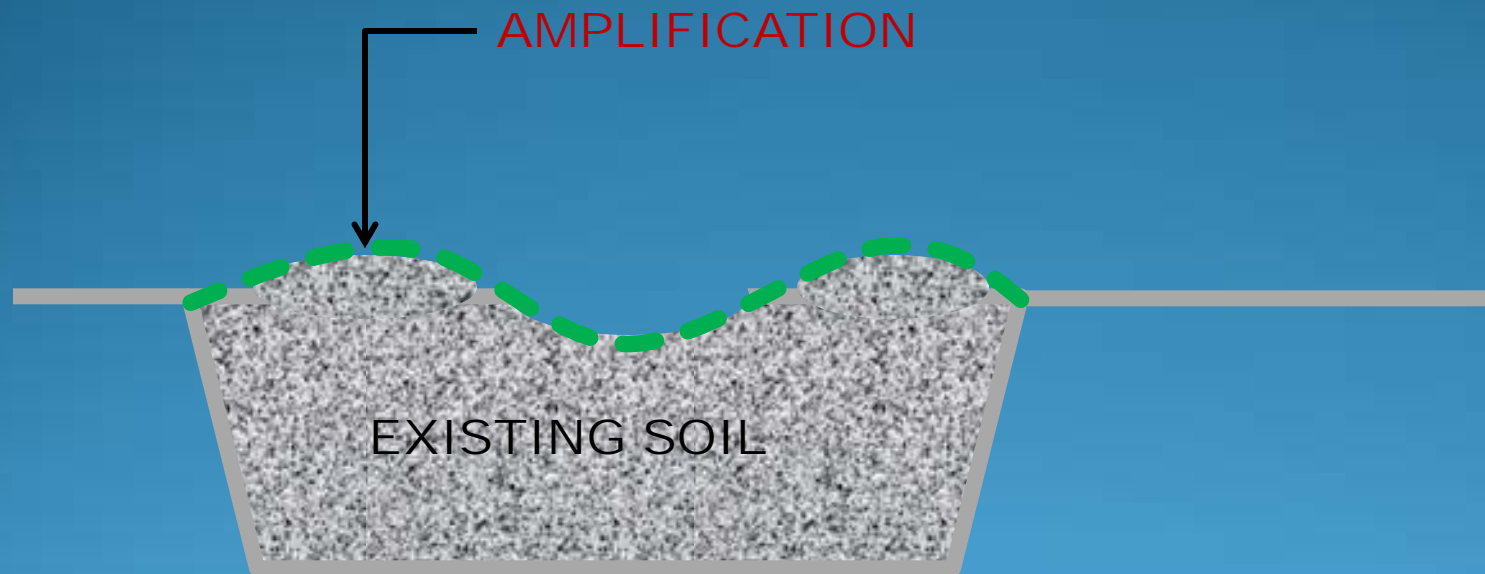
D= STIFF SOIL

E= SOFT SOIL

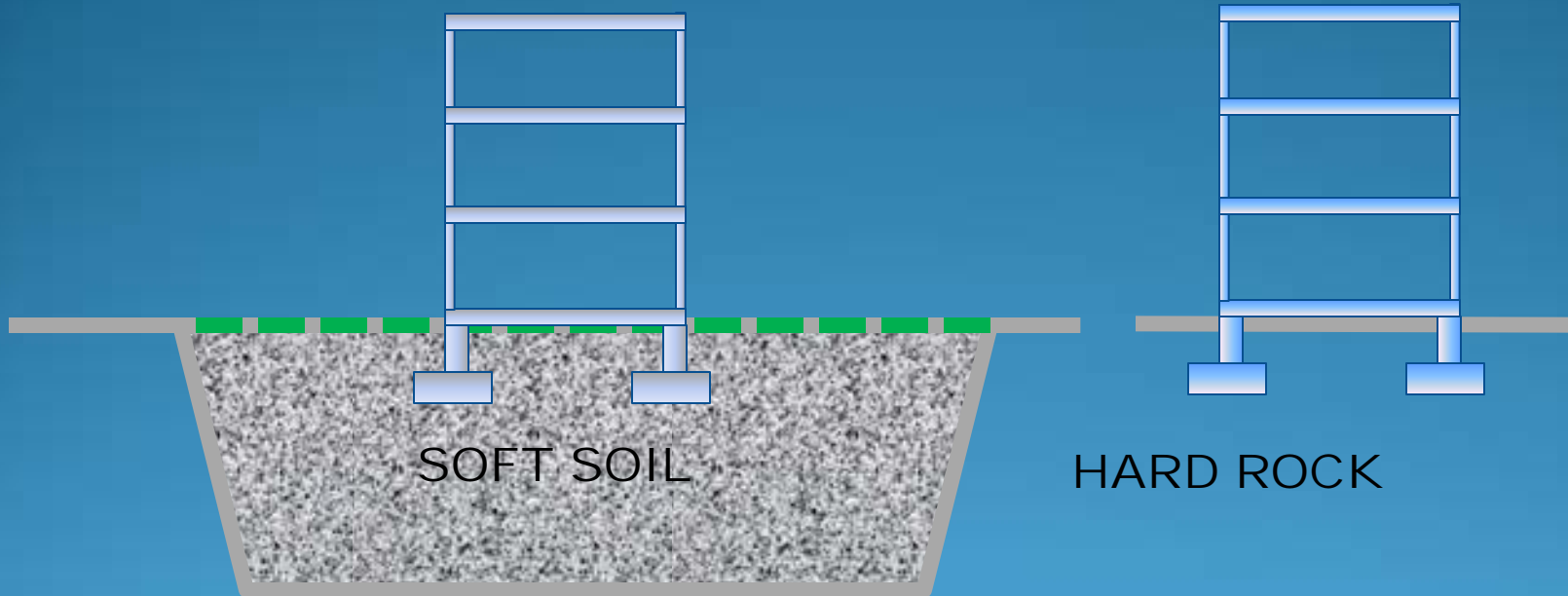
F= ORGANIC CLAY

NEVADA
CONDITIONS

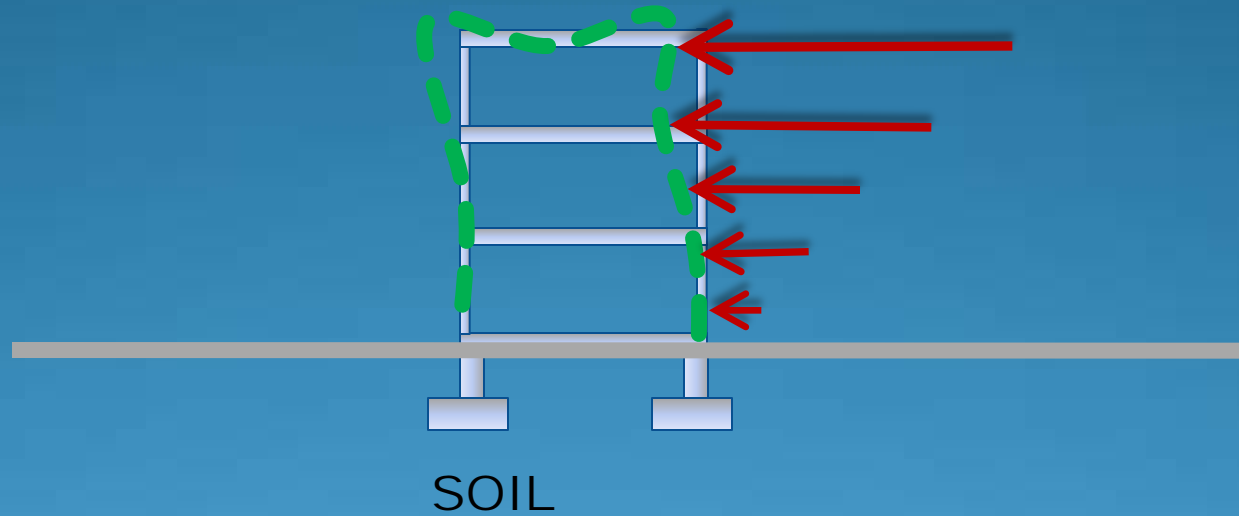
SEISMIC ACTIVITY



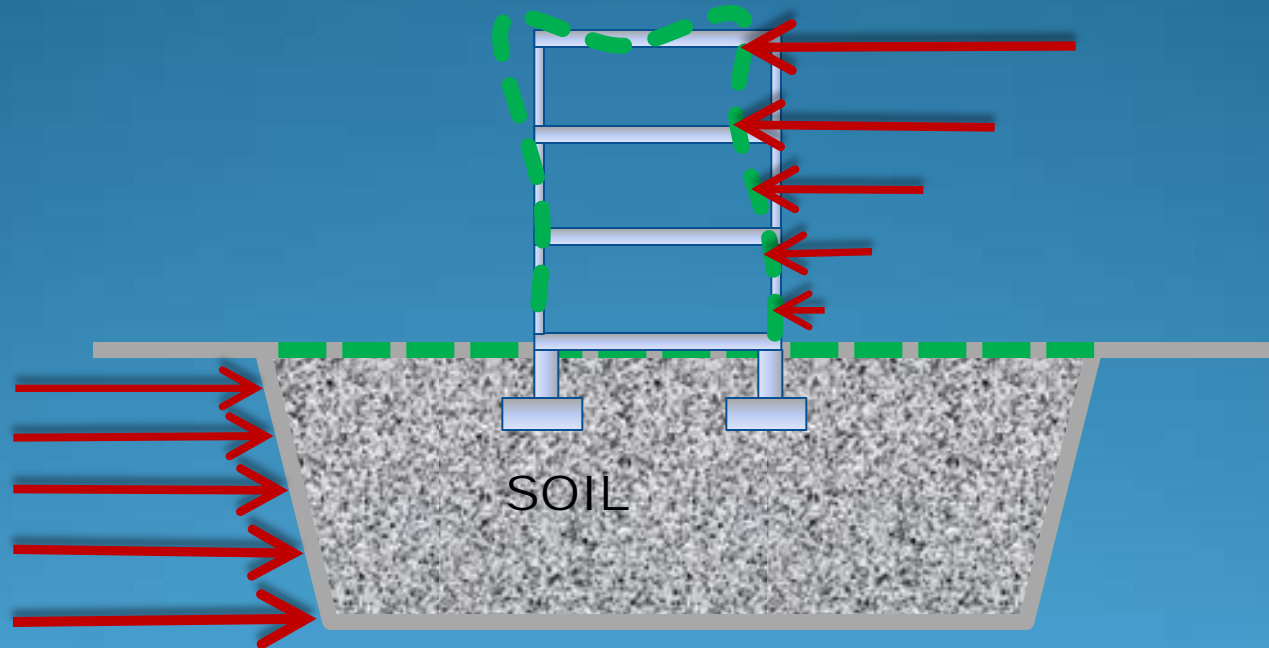
BUILDING CONSTRUCTION IN SOFT SOIL VS. HARD ROCK



WINDLOAD EFFECTS ON STRUCTURES



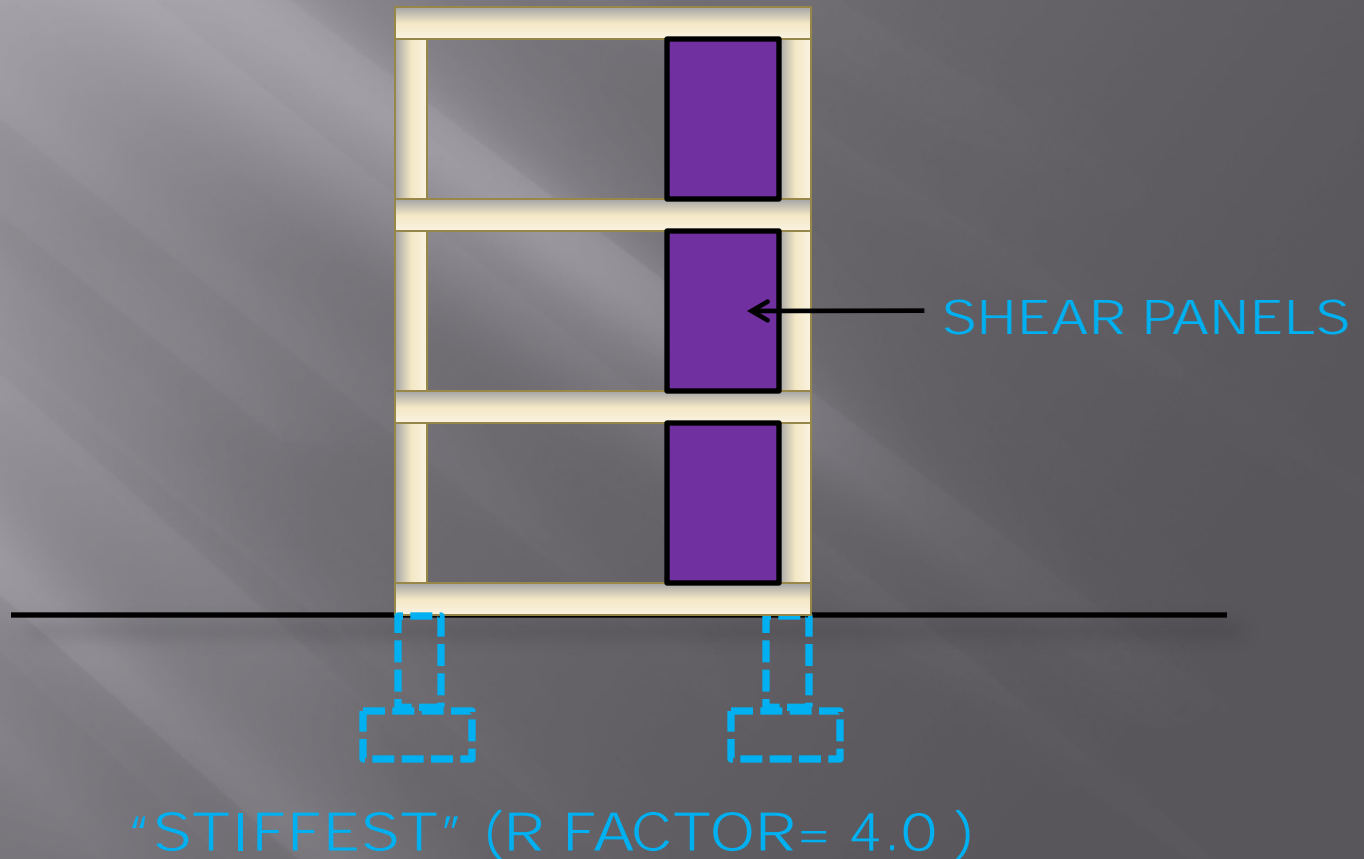
WIND AND SEISMIC LOAD EFFECTS



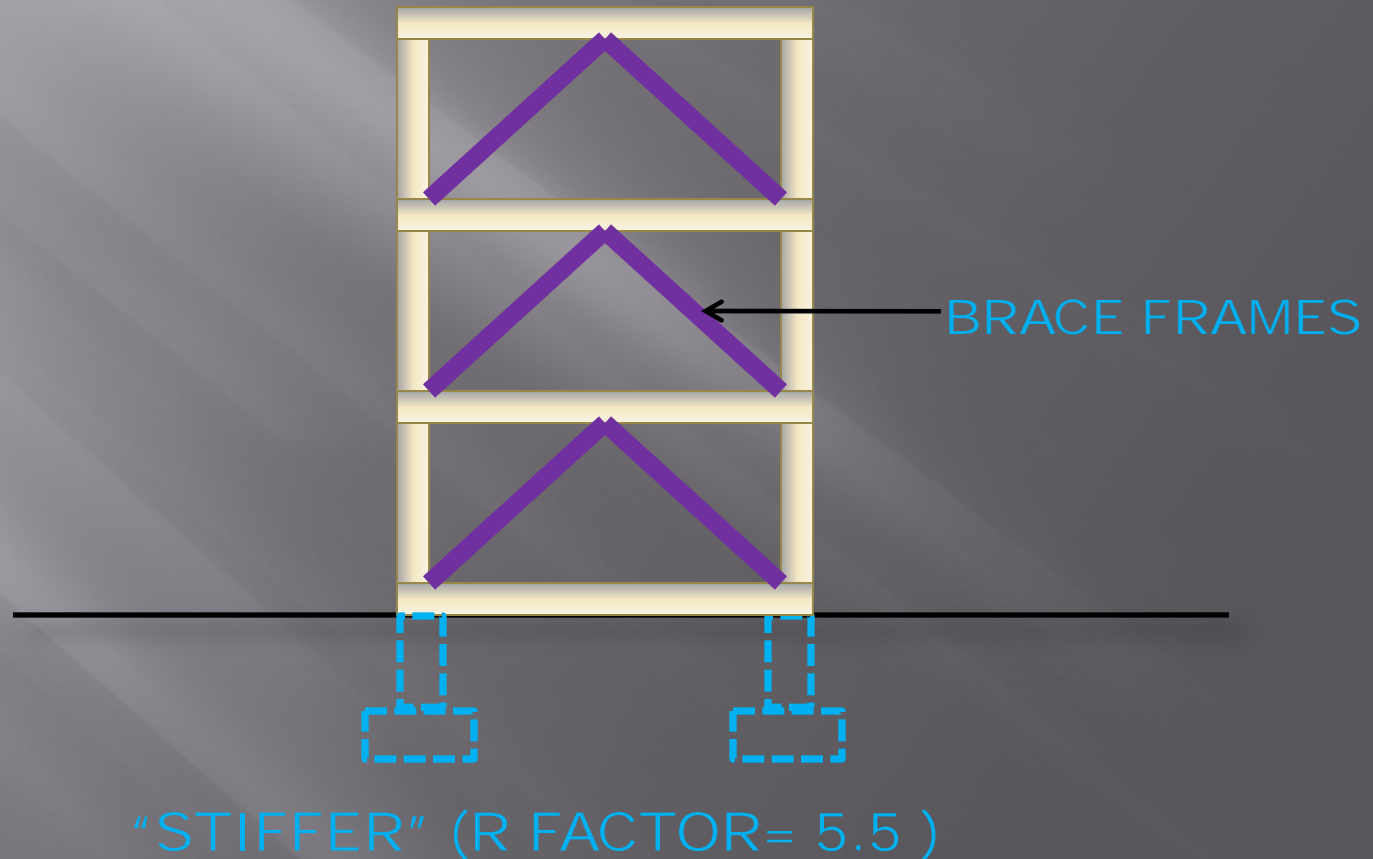
IMPORTANCE FACTOR

- STANDARD BUILDINGS (I or II)..... I = 1.0
 - SMALL OFFICE
 - STRIP RETAIL
 - MODERATE USE BUILDING (III).....I = 1.25
 - OFFICE BUILDINGS, SCHOOLS, ETC.
 - ASSEMBLY AREAS OF 300 OR GREATER
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- ESSENTIAL FACILITIES (IV).....I = 1.50
 - HOSPITALS
 - FIRE STATIONS
 - POLICE STATIONS
 - DISPATCH CENTERS

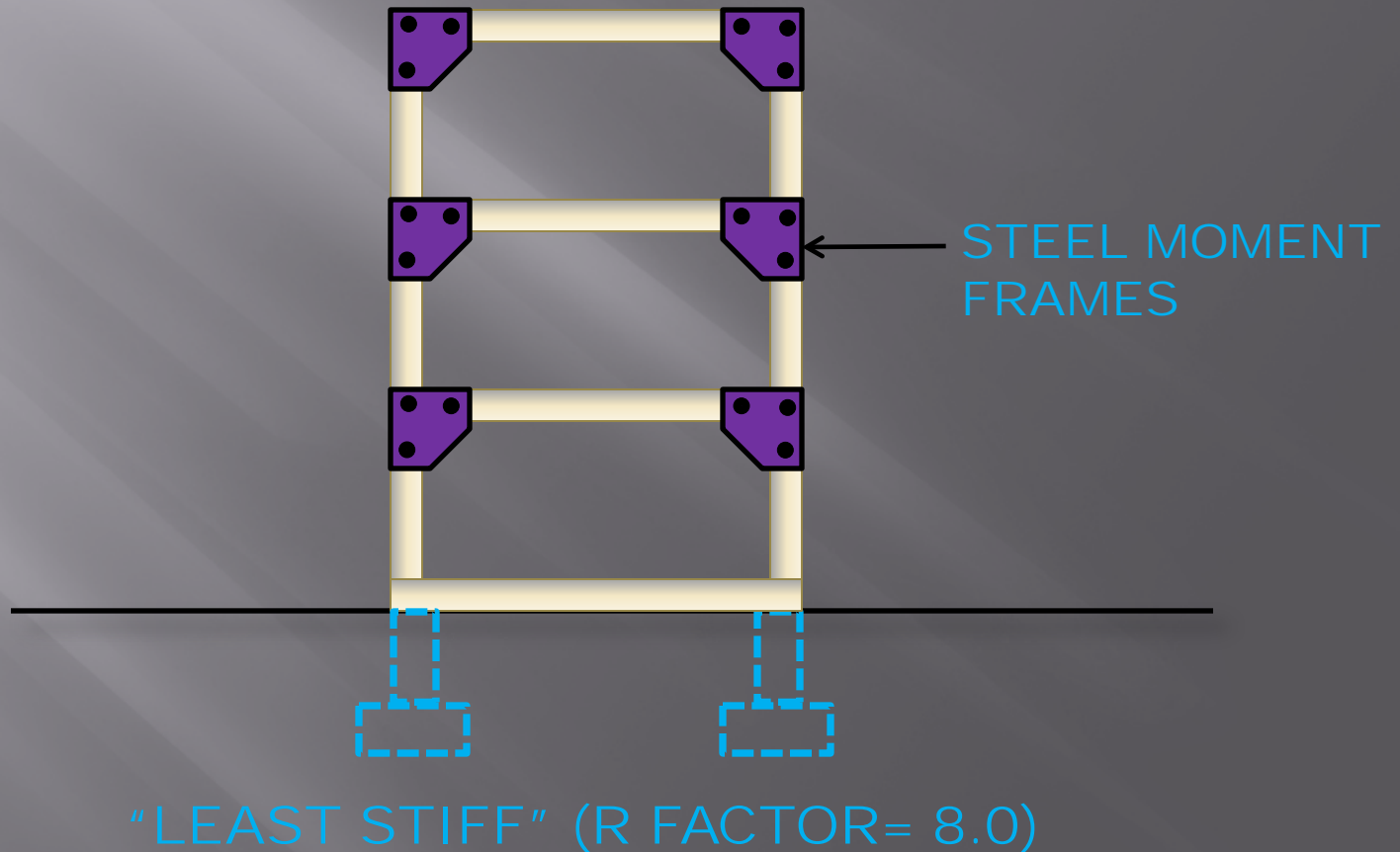
STRUCTURAL DESIGN RESPONSES



STRUCTURAL DESIGN RESPONSES



STRUCTURAL DESIGN RESPONSES



SPWB OVERSIGHT PROCESS

1. SELECT COMPETENT STRUCTURAL ENGINEER W/ A/E TEAM
2. PROVIDE DESIGNERS WITH APPLICABLE CODES & STANDARDS
 - A. SOIL TYPE DETERMINED FROM SOILS REPORT.
 - B. PROXIMITY TO SEISMIC FAULTS DETERMINED BY SOILS REPORT.
 - C. THE BUILDING'S "IMPORTANCE FACTOR" IS DETERMINED BY THE BUILDING TYPE IN ACCORDANCE WITH THE CODE.
3. SPWB CONDUCTS S.D., D.D. & C.D. REVIEWS
 - A. MONITOR DESIGN DECISIONS
 - B. PROVIDE IN-HOUSE STRUCTURAL REVIEW OF SYSTEMS
4. FINAL PLAN CHECK/BUILDING PERMIT
 - A. INDEPENDENT 3rd PARTY STRUCTURAL PEER REVIEW
 - B. VERIFICATION THAT PLAN CHECK COMMENTS ARE INCLUDED IN BIDDING DOCUMENTS.
5. SHOP DRAWING/SUBMITTAL REVIEWS
6. SPWB ON-SITE INSPECTIONS
7. INDEPENDENT 3rd PARTY MATERIAL TESTING & VERIFICATION